

CCACGCGTCCGCGCGGGAGCTGCTTGGAGGCTCGGCGGCCGGGAGGAGGCCGGGGCCACGCTTCTTGAA
GCTACTGAGTGACTTCTTTGAAGAACCATGAAGTCACACTATATTGTGCTAGCTCTAGCCTCCCTGACGT
TCCTGCTGTGTCTCCCCGTGTCCCAGAGCTGTAACAAAGCACTCTGTGCCAGCGATGTGAGCAAATGCCT
CATTCAGGAGCTCTGCCAGTGCCGGCCTGGAGAAGGGAAGTGGCCCTGCTGTAAGGAGTGCATGCTGTGC
CTCGGGGCCCTGTGGGACGAGTGCTGCGACTGTGTGCGGTATGTGCAACCCTCGGAATTACAGCGACACCC
CGCCACATCCAAGAGCACCGTGGAGGAGCTGCACGAGCCCATTCGGTCCCTGTTTACAGGGCGCTGACGGA
GGGCGACACCCAGCTGAACTGGAACATCGTCTCCTTCCCTGTGGCAGAGGAGCTGTCACACCATGAAAAC
CTAGTCTCCTTCCCTAGAAAAGTGTGAACCAGCTGCACCACCAAAACGTGTCTGTTCCCAGCAACAATGTCC
ACGCCCCCTTCCCCAGCGACAAAGAGCGCATGTGCACAGTGGTTTACTTTGATGACTGCATGTCCATCCA
CCAGTGTAAGATATCCTGCGAATCCATGGGTGCATCCAAGTATCGCTGGTTTCACAACGCCTGCTGCGAG
TGCATCGGTCCAGAGTGCATTGACTATGGGAGTAAAAGTGTCAAGTGTATGAACTGCATGTTTAAAGAG
GGGAAGAAATGCAAACCAAGCAAGAAGCGTGACGATGCCGTTGACACTCCTACCTTGCAGGATGTCCC
CACAGAGTCCACTGGACCAGCTTGTACAAGGGTGAACCTTTCTGCGTCACCTTTCTGCTTTTGCAGAGC
CATGACAGCAGCTGCCTTACAGCGTGATTTAGCAGACAGACCTGACAGGTGTGTCATGTGACAGGCAGCC
ATCAGGGTGGCCTAGCACATTTGTGGGTGCTGATGTTGTATTGCACGTGTCAAAGACTGACCAGTCCTGAT
AGGGCTGGAAAGAGGAAAGGGGTGTGGGAAGGTGACTTTCTTAGCTCTCCCGTAGCAGCACACTGTCATA
GTGTCTCAGTGTGTCATATTGCTGTGAAGAGACACCACAACCAAGGCAGCTTATGAAGAAAGCCCTTAATTA
GGGCTCGCTTTACAGTTCCGAGGTTACTTCTGGTTCGTGCTGGTGGGGATGAGGCAGTAGGTAGCAGGCA
TGGTGCTGGAGCAGTAGCTGAATGTTGGTTCACAACTTAGCACCTCGAGTCATGATAGAAACACCATCC
AGGCCTTGAAGCCCAACACGTAGCAACACCACTTGCCAAAGCAGGATCAAGGCTCTGTCAGCGTCCCAGG
ATGCAGTTGGGCAAGTTCTTGAGTGAAATTCCTATACATACTAACTCTGCAATTTTGCTTCTATAGTTCC
TCTTCTTGTTAACTATATGTCCAGAACCATTTCAGAATATGG
GTTTTTGTGAATAAAAAAATAAAAAAGGCCTGGTCTGCATAGATTGGGCAAGTTCCTTGCAGCCACAGG
CTAACAGTAAAGACTTTCTATTTGGCTTTAGGAGTATCCAAGGGGTGGTCTCTCGTGAGAGTACCTCGCA
ACAGCAGCAGATGGTGTGGAGGCTTGGCCTGCTGTGGGCTTTTGAAACCTTAAAGTCCACCCCCAGTGA
CACGCCTCCTCCAATAACACCACACCTCCTAATCCTTTCTAAGTAGTCCCTCAACTGGGAACCAAGCATT
CAGATATACGAGCCCAAAAGGCCATTCTCGTTCAAACCACCACATGTAATAAAATATATGCCACGTCAA
AAAAAAAAAAAAAAAA (SEQ ID NO:1)

MKSHYIVLALASLTFLCLPVSQSCNKALCASDVSKCLIQELCQCRPGEGNCPCC
KECMLCLGALWDECCDCVGM CNPRNYS DTP TSKSTVEELHEPIPSLFRALTEG
DTQLNWNIVSFPVAEELSHHENLVSFLETVNQLHHQNVSVPSNNVHAPFPSDKE
RMCTVVYFDDCMSIHQCKISCESMGASKYRWFHNACCECIGPECIDYGSKTVKC
MNCMF (SEQ ID NO:2)

FIG. 1

red underlined = deleted in targeting construct

green = sequence flanking Neo insert in targeting construct

CCACGCGTCCGCGCGGGAGCTGCTTGGAGGCTCGGCGGCCGGGAGGAGGCCGGGGCCACG
CTTCTTGGAAGCTACTGAGTGACTTCTTTGAAGAACCATGAAGTCACACTATATTGTGCT
AGCTCTAGCCTCCCTGACGTTCTTGCTGTGTCTCCCCGTGTCCCAGAGCTGTAACAAAGC
ACTCTGTGCCAGCGATGTGAGCAAATGCCTCATTCAGGAGCTCTGCCAGTGCCGGCCTGG
AGAAGGGAAGTGGCCCTGCTGTAAGGAGTGCATGCTGTGCCTCGGGGCCCTGTGGGACGA
GTGCTGCGACTGTGTTCGGTATGTGCAACCCTCGGAATTACAGCGACACCCCGCCACATC
CAAGAGCACCGTGGAGGAGCTGCACGAGCCCATTCGGTCCCTGTTTCAGGGCGCTGACGGA
GGGCGACACCCAGCTGAACTGGAACATCGTCTCCTTCCCTGTGGCAGAGGAGCTGTCACA
CCATGAAAACCTAGTCTCCTTCCCTAGAACTGTGAACCAGCTGCACCACCAAAACGTGTC
TGTTCCCAGCAACAATGTCCACGCCCCCTTCCCCAGCGACAAAG [AGCGCATGTGCACAGT
GGTTTACTTTGATGACTGCATGTCCATCCACCAGTGTA] AGATATCCTGCGAATCCATGGG
TGCATCCAAGTATCGCTGGTTTCACAACGCCTGCTGCGAGTGCATCG [GTCCAGAGTGCAT
TGACTATGGGAGTAAACTGTCAAGTGTATGAACTGCATGTTTTAAAGAGGGGGAAGAAA
TGCAAACCAAAGCA] AGAACGCTGACGATGCCGTTGACACTCCTACCTTGCCAGGATGTCCC
CACAGAGTCCACTGGACCAGCTTGTACAAGGGTGAAACCTTTCTGCGTCACCTTTCTGCT
TTTGCAGAGCCATGACAGCAGCTGCCTTACAGCGTGATTTAGCAGACAGACCTGACAGGT
GTGTCATGTGACAGGCAGCCATCAGGGTGGCCTAGCACATTTGTGGGTGCTGATGTTGTA
TTGCACTGTCAAAGACTGACCAGTCTGTAGGGCTGGAAAGAGGAAAGGGGTGTGGGAA
GGTGACTTTCTTAGCTCTCCCGTAGCAGCACACTGTCATAGTGTCTCAGTGTTCATATTGC
TGTGAAGAGACACCACAACCAAGGCAGCTTATGAAGAAAGCCCTTAATTAGGGCTCGCTT
TACAGTTCCGAGGTTACTTCTGCTCGTGGTGGGGATGAGGCAGTAGGTAGCAGGCA
TGGTGCTGGAGCAGTAGCTGAATGTTGGTTCACAACTTAGCACCTCGAGTCATGATAGA
AACACCATCCAGGCCTTGAAGCCCAACACGTAGCAACACCACTTGCCAAAGCAGGATCAA
GGCTCTGTGACGCTCCAGGATGCAGTTGGGCAAGTTCTTGAGTGAAATTCCTATACATA
CTAACTCTGCAATTTTGCTTCTATAGTTCTTCTTGTAACTATATGTCCAGAACCAT
TTCAGAATATGGGTTTTTGTGAATAAAAAAATAAAAAAGGCCTGGTCTGCATAGATTGGG
CAAGTTCCCTTGACAGCCACAGGCTAACAGTAAAGACTTTCTATTTGGCTTTAGGAGTATC
CAAGGGGTGGTCTCTCGTGAGAGTACCTCGCAACAGCAGCAGATGGTGTTGGAGGCTTGG
CCTGCTGTGGGCTTTTGAAACCTTAAAGTCCACCCCCAGTGACACGCCTCCTCCAATAAC
ACCACACCTCCTAATCCTTTCTAAGTAGTCCCTCAACTGGGAACCAAGCATTTCAGATATA
CGAGCCCACAAAGGCCATTCTCGTTCAAACCACCATGTAATAAAATATATGCCACGTC
AAAAAAAAAAAAAAAAAAAA (SEQ ID NO:1)

FIG. 2A

Gene Sequence
Structure *

639 bp

Sequence Deleted

707 bp

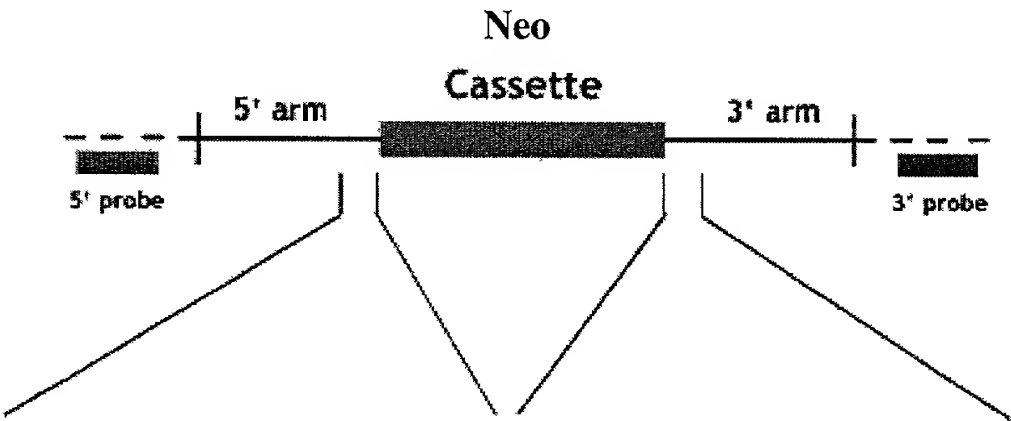
Size of full-length
cDNA: 1879 bp



Targeting Vector* (genomic sequence)

Construct Number: 203

Arm Length:
5': 1.9 kb
3': 3.6 kb



5'> AACAAATGAAGATCTTTTGTC CCTCGTTTTTGTCTGTGCTGATG AGCAGTAAGAGGGCTAGAAAGTAA CTGCAGGTATTCTCTGAGCAAGCG AGCGAGTGGCCGAGCTCTTCCTGC CTGTACTGAAATGTCCCTTTGCAT TTCAGAGCGCATGTGCACAGTGGT TTACTTTGATGACTGCATGTCCAT CCACCAGTGTA<3' (SEQ ID NO:3)	5'> GTCCAGAGTGCATTGACTATG GGAGTAAACTGTCAAGTGTATGA ACTGCATGTTTTAAAGAGGGGGAA GAAATGCAAACCAAAGCAGTAAGT CATGAAGTGTGCAGAAATCTTGGT TCTGGTATGCTAGGAGTGTGTTAA GTTATATGATTGTAAGTGTGCTTT TTATATCTGGTGCCTATTAGTGTA GGTCTTTTCCA<3' (SEQ ID NO:4)
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Targeting Vector

Endogenous Locus

* Not drawn to scale

FIG. 2B